UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
ECOSYSTEMS,
TRIBAL AND PUBLIC
AFFAIRS

August 28, 2015

Erik Anderson
Department of the Navy
Naval Sea Systems Command
1240 Isaac Hull Avenue South East, Stop 8036
Washington Navy Yard, DC 20376-8036

Dear Mr. Anderson:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality regulations for implementing NEPA, the U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (DEIS) for the Recapitalization of Infrastructure Supporting Naval Spent Nuclear Fuel Handling at the Idaho National Laboratory (INL) in Butte County, Idaho (EPA Project No. 94-032-DOE).

The DEIS evaluates potential environmental impacts associated with a Department of Energy (DOE) proposal to recapitalize infrastructure needed to ensure the long-term capability of its Naval Nuclear Propulsion Program to support naval spent nuclear fuel handling for at least the next 40 years or until 2060. The existing Expended Core Facility (ECF) infrastructure for processing the fuel has been in service for over 50 years and needs significant renovations to continue fuel handling operations. If implemented as proposed, this project would ensure safe and environmentally responsible management of the fuel at this unique Naval Reactors Facility (NRF) and effective support of the U.S. Navy national security missions. The DEIS tiers to DOE's 1995 Programmatic Spent Nuclear Fuel Management and INL Environmental Restoration and Waste Management Programs Final EIS and related Settlement Agreement, as amended in 2008, among the State of Idaho, DOE, and the U.S. Navy.

Analysis of potential impacts from the project considered three action alternatives, including a No Action (p. 2-1). Under the New Facility Alternative (Proposed action and Preferred Alternative), DOE would acquire capital assets to recapitalize the naval spent nuclear fuel handling capabilities, while leveraging existing ECF infrastructure and use of newer equipment designs. The new facility would consist of all current spent nuclear fuel handling operations conducted at the ECF and new capability, such as unloading fuel rods from new shipping containers (M-290), handling aircraft carrier spent nuclear fuel assemblies without prior disassembly, and enhanced security infrastructure to protect against threats. The Overhaul Alternative would upgrade and refurbish the existing ECF and related facilities, while the No Action Alternative would maintain existing infrastructure as is and provide only preventive and corrective maintenance. The DEIS indicates that, comparatively, it would be significantly cheaper and more beneficial to construct the New Facility Alternative than the other proposed action (p. 2-79).

The DEIS includes a good description of natural resources within the project area, analysis of anticipated environmental impacts, measures to offset the impacts, and monitoring programs to detect environmental impacts during implementation and demonstrate compliance with applicable environmental requirements. DOE proposes to develop a Mitigation Action Plan after publication of the Record of Decision for this project (p. 6-1). Because a draft of such plan was not included in the DEIS, the final EIS should make it clear that development of the Mitigation Action Plan would include opportunities for the public to review and comment.

Overall, most direct impacts of the project would be due to construction activities, which would generate both temporary and permanent impacts related to the project footprint and long-term operation and maintenance of facilities. Our concerns with implementing the proposed project relate to its potential impacts on water resources, air quality, ecological and other resources as discussed below. We recommend that DOE continue to work with the Idaho Department of Environmental Quality and affected tribes to assure air quality and water resources protection as the project is implemented. Because of occurrence of vegetation and wildlife of concern in the project area, including sage-grouse and pigmy rabbits, DOE should also continue to coordinate with the US Fish and Wildlife Service and the Idaho Department of Fish and Game to identify effective measures to take to reduce risks to species and protect habitat.

Based on our review and concerns about potential impacts on water and air resources and unclear or missing information, we have assigned a rating of EC-2 (Environmental Concerns – Insufficient Information) to the DEIS. For your reference, a copy of the rating system used in conducting our review is enclosed.

Thank you for the opportunity to review and comment on this DEIS. If you have questions about our comments, please contact me at (206) 553-1601 or by electronic mail at reichgott.christine@epa.gov or contact Theo Mbabaliye of my staff at (206) 553-6322 or by electronic mail at mbabaliye.theogene@epa.gov.

Sincerely,

Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

Enclosures:
1. EPA Detailed Comments on the DEIS for the Recapitalization of Infrastructure Supporting Naval Spent Nuclear Fuel Handling at INL Project
2. U.S. EPA EIS Rating System

EPA Detailed Comments on the Draft EIS for the Recapitalization of Infrastructure Supporting Naval Spent Nuclear Fuel Handling at INL Butte County, ID

Impacts on Water Resources

The DEIS indicates that water quality may be adversely affected if the project construction activities such as surface grading, excavation, surface pavement, and building roofs alter the hydrology of springs and surface runoff such that erosion carries sediment to surface waters and pollutants to local drainages and the underlying aquifer. In addition, groundwater extraction in the analysis area and vicinity, land disturbance, material storage, waste and wastewater disposal, inadvertent chemical or hazardous liquid spills, and compaction produced by vehicular traffic can all affect recharge to the local aquifer and groundwater quality. Because of the project, there would be an increase in discharge volume (about 17 million gallons) to the Industrial Waste Ditch (IWD), which would increase erosion and sedimentation in the IWD, resulting in an increased amount of water seeping into the perched water zone at the outfall of the IWD (p. 4-46). Water use during construction of the project would also increase by 50 percent (or 62,830,000 gallons) over the NRF baseline (p. 4-45) which could exacerbate the seepage that could in turn facilitate migration of contaminants (e.g. salts in process wastewater discharges) to the Snake River Plain Aquifer – an EPA designated sole source aquifer (p. 3-39) still vulnerable to contamination from surface activities.

We recognize that the proposed surface water drainage and retention systems, and Best Management Practices will lessen the impacts of stormwater runoff from impervious surfaces, but pollutants are still likely to accompany discharges to surface waters and infiltrate to groundwater. To address this, DOE should consider use of Low Impact Development techniques[1] during the proposed project in order to reduce stormwater volumes and thus mimic natural conditions as closely as possible. These techniques lessen the impacts of stormwater runoff from impervious surfaces such as paved roads, parking lots, and roofs and can also provide energy and other utility savings. As the DEIS indicates that construction of the new facility will disturb up to 150 acres of land, a National Pollutant Discharge Elimination System (NPDES) permit from the EPA for the project will also be required. Other measures to conserve energy and resources may include those under the Energy Independence and Security Act of 2007. The EPA Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act can be accessed online. In addition to strategies outlined in this guidance, it will also be useful to consult the Idaho Department of Environmental Quality (IDEQ) on measures to take to manage stormwater and protect water quality in the project area.

Recommendations:

- *The final EIS should include updated information on the NPDES permit application process and measures to protect water quality.*
- *Continue to work with the IDEQ and tribes that may be affected by the project to assure that state and tribal water resources are protected and used wisely.*
- *Include the Energy Independence and Security Act of 2007 among other applicable Federal laws and regulations, and update the list of required permits for the project with inclusion of the NPDES permit because the project activities would disturb one or more acres (150 acres).*

[1] http://www.epa.gov/owow/NPS/lid/

Air Quality Impacts
The DEIS describes current air quality conditions in the project area and indicates that the INL as a whole is designated as "attainment" or "unclassified/attainment" (p. 3-92). The DEIS also indicates the INL is currently a major source of hazardous air pollutants or HAPs (p. 3-101) and that the three fuel oil-fired boilers used to generate steam for heating several of the facility buildings including the ECF, and four large Emergency Diesel Generators are the major sources of non-radiological air emissions at the NRF (p. 3-111). Other sources of criteria, toxic, and HAPs in the analysis area include miscellaneous small gasoline, diesel, and propane combustion sources, and miscellaneous chemical usage.

While the DEIS provides valuable air quality information and data, including evaluation of HAPs and greenhouse gas emissions, the documentation of the modeling results is lacking. Appendix E of the DEIS goes into great detail about the inputs used in the various models, but nowhere does it report on the outputs of these models. Appendix E should include actual model outputs and a table that summarizes air quality impacts for the three different scenarios. In addition, the DEIS does not include emissions from the various scenarios, either reported individually or in comparison to each other to support the overall conclusion that air emission impacts are insignificant. The model output results that led to that conclusion would be useful.

Even though current concentrations of criteria pollutants within the project area are below National Ambient Air Quality Standards, there is potential for significant air emissions from project construction due to fugitive dust releases during ground-disturbing activities, as well as cumulative impacts when considering surrounding activities such as road construction, regular traffic on dirt roads, and emissions from agriculture and fires. The DEIS indicates, for example, that during new facility construction (3 years), daily traffic to and from the NRF would be expected to increase up to 6 percent and NRF employees, some of whom may be sensitive to air quality conditions, are expected to increase from the current number of 1370 to 2180.

Recommendations:

- *The final EIS should include modeling output data to show that the proposed project would not result in any significant increase in criteria, toxic and Prevention of Significant Deterioration air pollutant emissions.*
- *Maximum implementation of mitigation measures described in the DEIS to reduce emissions associated with the proposed project activities.*
- *Monitoring of air quality conditions on site and taking corrective actions to prevent local air quality deterioration. Monitoring strategies tailored to local conditions would ensure that localized air quality impacts do not exceed standards when area-wide and/or long-term monitoring data may show compliance with air quality regulatory requirements.*
- *Continued coordination with other entities in the area, especially IDEQ and affected tribes, to assure emissions due to the proposed action are reduced over the project lifespan (40 years).*

Impacts of Climate Change:
Section 3.6 of the DEIS discusses greenhouse gases (GHGs) and climate change and indicates that there has been overall declining trends in emissions as inventoried at both INL and the proposed project area between 2008 and 2012 (p. 3-111, 3-117). We thank you for the data provided and efforts made to

reduce emissions; however, the GHG inventories for 2013 and 2014 were not included in the DEIS for review. The DEIS indicates that because of the proposed action, GHG emissions could increase due to worker commuting, purchased electricity, operation of construction equipment, and use of diesel generators and fuel oil-fired boilers for heating (p. S-73). In addition, continued climate change could impact the proposed project, posing threats to infrastructure and higher risks to worker health and safety through increased frequency and severity of wildfires, as well as persistent drought leading to power disruptions and increased cooling demands in summer months.

Recommendations:

- *The final EIS should include all GHG emission inventories from 2008 to 2014 and an updated analyses of climate change impacts. The INL, including NRF, has the potential to emit greater than 100,000 MT CO_2 emissions per year and is, therefore, subject to the mandatory reporting requirements (p. 3-100).*
- *Consider the approaches for climate impact assessment outlined in the Council on Environmental Quality's current "Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts[2]."*
- *Implement practicable mitigation opportunities for reducing GHGs during the proposed project period, consistent with Executive Order 13514[3] and other federal, state and local requirements to limit GHG emissions.*

Impacts on Ecological Resources

The DEIS discusses the proposed project's impacts to ecological resources (p. 4-52) and indicates that vegetation removal, habitat fragmentation, and ground disturbance would affect plant communities, migratory birds, and other wildlife species of concern, with most impacts to these resources occurring during new facility construction (p. 4-62). In particular, there would be habitat alteration for sage grouse (candidate species for listing under the Endangered Species Act) and pygmy rabbits, loss of native grasslands and sagebrush steppe habitats, and potential impacts to nesting migratory birds (p. 4-53). Some of the impacts would be indirect, while others would be direct, cumulative and unavoidable.

While we appreciate the avoidance measures of limiting the project footprint and using previously disturbed areas, we note that clearing and grading during construction would result in complete removal of vegetation on nearly 140 acres at location 3/4 or 6. Of the 140 acres, less than half (40 acres) would remain permanently developed for facilities and infrastructure. Crested wheatgrass and the Big Sagebrush plant communities would sustain the largest losses. Such habitat loss and fragmentation would have direct impacts on wildlife (loss of cover and food, displacement, increased noise, etc.), tribal resources (ethobotanical plants, wildlife), soil (exposure, erosion, sedimentation, noxious weeds), and potentially mortality of small mammals, lizards, and raptors that occur in construction locations. Given that wildlife (e.g., sage grouse) and vegetation of concern (e.g., sagebrush steppe) use and occur in the project area, respectively, impacts to those species should be avoided, minimized and mitigated.

Recommendation:

- *Continue to work with the U. S. Fish and Wildlife Service and the Idaho Department of Fish and Game to determine the level of risk to vegetation and wildlife species and identify effective*

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[2] https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf

[3] http://www.epa.gov/greeningepa/practices/eo13514.htm

measures to reduce the risks and protect species. The final EIS should include the outcomes of this work with the agencies.

Seismic Risk

The DEIS discusses seismic hazards at the INL and NRF (p. 3-23) and indicates seismic hazards could affect buildings, structures, cranes, water pools, infrastructure systems, and fuel handling equipment, resulting in failure of structures, systems, and components and causing potential hazards to workers, public safety, and the environment due to potential release of radioactive or hazardous materials into the environment (p. 4-19). The DEIS also states that a sensitivity analysis was completed for the NRF using existing data and that the analysis showed little change from ground motion levels in the 2000 Probabilistic Seismic Hazard Analysis (PSHA). It is not clear what those ground motion levels were in 2000 and changes observed after sensitivity analysis, and what the levels would be after construction of the proposed new facility. While we appreciate that additional geologic characterization will be done to update the 2000 PSHA, a summary of the 2000 PSHA and related sensitivity analyses should be included in the EIS.

Recommendation:

- *The final EIS should include summary results of the 2000 PSHA and related sensitivity analyses. If construction and operation of the new facility would significantly increase seismic risk, then the EIS would need to include measures to minimize impacts due to that risk and cumulative risk due to other projects in the area.*

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.